United Nations A/HRC/36/41/Add.2

General Assembly

Distr.: General
10 October 2017

English only

**Human Rights Council**
**Thirty-six session**
11–29 September 2017
Agenda item 3
**Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development**

# Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes on his mission to the United Kingdom of Great Britain and Northern Ireland: comments by the State*

* Reproduced as received.

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## Governance

**Paragraph 8 – Comments from the Welsh Government**

There are no regulations which specify 500m buffer zones in relation to opencast coal sites. There are policy mechanisms in place via Minerals Technical Advice Note 2 Coal (MTAN 2) which state that local planning authorities should identify buffer zones in their Local Development Plans, defined as 500m around permitted or proposed working, from the site boundary (or boundary for surface development for underground mining), unless there are exceptional circumstances (paragraph 32). It goes on to say) that, exceptionally, having considered the evidence put forward with a surface or underground coal working application, coal working may be permitted within 500m of settlements and lists the factors to be considered (paragraph 49). MTAN 2 can be found at: http://gov.wales/docs/desh/policy/090120coalmtanen.pdf

Public Health Wales are not aware of any recent concerns of cancer clusters or childhood asthma in the area. Asthma rates in Merthyr are no higher than other parts of Wales or the Welsh national rate see Public Health Observatory Report "Health of Children and Young People 2013" http://www.publichealthwalesobservatory.wales.nhs.uk/child-profile-overview

**Paragraph 9**

Comments from the Welsh Government

In relation to the first sentence, Air Quality input:-

"Local Authorities (LAs) in Wales tackle air quality issues at a local scale through the Local Air Quality Management process (LAQM). LAQM requires LAs to review and assess air quality, producing remedial action plans where air quality is found to be poor. Separate to this, LAs have duties to investigate nuisance smoke, fumes, odours and dust complaints made by members of the public.

If after having contacted a LA a member of the public feels the LA has not acted in accordance with its duties, a formal complaint can be submitted to the LA. If the response from the LA is felt to be unsatisfactory, members of the public can complain further to the Public Services Ombudsman for Wales."

The SR was also interested in how the cumulative impacts of different sites are taken into account when determining new development and the role of Public Health Bodies in working together and decision making. Officials outined the dual regulatory regime for authorising waste activities with local authority planning system controlling the development and use of land, imposing requirements on a developer to control impacts on the local environment and amenity and the environmental permitting regime protecting the environment and human health by controlling the day-to-day operations at a site. Officials explained how the consultation process on a new permit application engages with local communities seeking their views on the potential impacts and the role of Natural Resources Wales to grant or refuse permit applications. Officials cited Cwmfelinfach as a recent example of regulatory bodies working together and taking advice from Public Health Authorities to consider air quality concerns raised by the local community.

"authorities have not conducted independent health assessments since mining activities commenced"

Note - this is incorrect:

**PHW HIA:**

In 2007 a HIA was developed, led by a local interest group; it was supported by the Wales **Health Impact Assessment Support Unit** WHIASU) but the LHB and local council also contributed. It was published by the Ffos y Fan HIA steering group:

http://www.wales.nhs.uk/sites3/Documents/512/FYF%20Final%20report%20June%2007.pdf

However it is worth emphasising the problems of undertaking small area health studies since, although perceived to be helpful in some respects, they often raise more questions than answers due to their many limitations. Single site studies on health are unlikely to have sufficient

statistical power to confirm of refute assertions of effects and there is a significant risk that the results of such investigations will be impossible to interpret. Due to the limits of statistical tests, when distinguishing between random fluctuations in the number of cases of a disease and a statistically significant increase in disease, around one in twenty tests will produce a false positive result.

Other small area health study issues and limitations include:

- data confidentiality, data protection rules and regulations;
- the number of health events over short periods in small areas is often very small;
- the population of small areas often changes substantially over small time frames;
- boundary changes to small areas occur relatively frequently; and
- large numbers of comparisons will produce many high or low results due to chance.

In addition, it would not be possible to attribute small area study findings to a specific cause i.e. in this case, exposure to air pollution. The occurrence of health outcomes may be influenced by numerous other contributing factors and stressors and it is extremely difficult to account for all potential confounders. Identifying a suitable comparison population group is also problematic.

**COMEAP:**

The Committee on the Medical Effects of Air Pollutants (COMEAP) advises the government on all matters concerning the health effects of air pollutants.

"Merthyr Tydfil local authority has confirmed that dust samples have been taken and examined from Ffos-y-fran on a number of occasions. The severity of the dust deposition has not, when compared with available guidance, exceeded nuisance levels. Legal action has not been necessary and remedial action had been required on an informal basis.

There have been no exceedances of the Government's annual PM10 air quality standard measured at Twynyrodyn Infants School. PM2.5 is also measured at this site with similar findings.

The local authority acknowledge that the company's operations are capable of causing complaint during daytime working. Complaints are usually associated with the operation of heavy earthmoving equipment or fog cannon (dust suppressors). The company have been asked to modify their activities on occasions and this is generally effective.

In all investigations of emissions from the site the Council makes reference to current national standards. In addition to the planning limits set for the site, the Government air quality standard for particulates, nuisance standards relating to environmental noise and dust exposure are applicable. The site is also subject to and compliant with the Prescribed Process Control Standards."

**Paragraph 10 - Comments from the Scottish Government and Scottish Environment Protection Agency (SEPA)**

**Scottish Government**

Members of the Avonbridge and Standburn Community Council from the Falkirk area have been regularly in contact with Scottish Government, Scottish Water and Scottish Environment Protection Agency (SEPA) officials for the last few years. They have reported many odour issues in their area but in most of these instances, the odour was proven to be caused by other farm "materials" such as slurry etc.

Any reported instances of spillages, leeching and adverse odour are investigated and monitored closely by SEPA. Again, many of these reports were not directly attributable to sewage sludge.

However, in light of continued correspondence from the community council, Scottish Government Ministers commissioned a review of the legislation and management practices relating to the spreading of sewage sludge to land. The review findings highlighted that the existing legislation required updating and 25 recommended courses of action were developed. The proposed legislative changes which will tighten up the waste management aspect (e.g. transportation and storage) and ensure greater duty of care throughout the production chain. It

is hoped these measures will be introduced into Scots law later this year. The representatives of the community council who met the Special Rapporteur were consulted on a regular basis throughout the process.

With regard to the claims that the use of sewage sludge can cause harm to human health, there is no current factual evidence to back this up. However the review considered that the last report on the potential effects to health, which is the existing SNIFFER report published in 2008 and from which the Scottish Government bases its opinion on, needed to contain more robust and up to date data. The report will include a particular focus on the effects of odour on communities.

**SEPA**

- Companies applying sludge to land are not self-regulating. There are a range of legislative and non-legislative controls which apply to the use of sewage sludge on agricultural and non-agricultural land in Scotland. This includes the Sludge (Use in Agriculture) Regulations 1989 and Waste Management Licensing Regulations 2011. SEPA enforces these regulations.
- SEPA supports the use of sewage sludge on land in accordance with regulations and guidance as this is the Best Practicable Environmental Option. The only real alternative to land application is combustion or disposal to landfill.
- SEPA has received and investigated complaints across Scotland in recent years related to sludge storage and application to land. Many of the issues stem from odorous materials and inappropriate storage or application to land.
- It is clear to SEPA that sludge use on land has negatively impacted some communities and that regulatory controls should be improved.
- The on-going implementation of the Sludge Review carried out by SGov and SEPA and the on-going development of new regulations will change the way SEPA regulates the use of sewage sludge.
- This sludge review in 2016 produced a suite of recommendations relating to the use of sewage sludge, which included a recommendation to improve the existing legislation through the Scottish Government's Better Environmental Regulation Programme. This work is currently being progressed jointly with SGov and SEPA.
- Since 2007 SEPA has carried out risk-based soil compliance monitoring to allow the effects of organic material application on soil quality indicators to be monitored, and compliance with the soil limit values set out in the 1989 Regulations to be audited. Between 2007 and 2014, SEPA sampled soils from 215 fields spread with sewage sludge at 70 farms located throughout Scotland. Soil analysis results found a small number of breaches of PTE limits specified in the Sludge Regulations in spread fields; nickel (2.8 % of samples) and zinc (2.3 %) were the PTEs most likely to breach limits.
- Health assessments on sludge have been conducted, and an update has already been commissioned by the SGov:
- A literature review for the EC in 2005 stated that despite a number of studies on possible adverse health effects to the public in the vicinity of sludge spreading operations there have been no unambiguously demonstrated adverse consequences to the public as a result of aerosols from properly conducted treatment and recycling operations.
- A desk-based literature review of the human health impacts of spreading sewage sludge on non-agricultural land was carried out by medical experts from the University of Aberdeen in 2008 for Project partners: SNIFFER, SEPA, NIEA, Scottish Government, Forestry Commission and Health Protection Scotland.
- Scottish Gov are currently commissioning a new project to provide an update entitled "The Impacts On Human Health And The Environment Arising For The Spreading Of Sewage Sludge To Land"
- The earlier 2008 report included the following conclusions:

- Many studies in this area, for both occupationally and non-occupationally exposed populations, suffer from small sample sizes. This limits the ability of such studies to identify small levels of risk in the exposed populations and thus runs into the problem of believing that effects do not occur whereas they do but at low level.
- For non-occupational exposures, either as residents or as by-standers, there was only one formal trial of exposure which showed no increases in markers of ill health in the exposed population. Overall, this limited literature is conflicting but shows no consistent effect on health from living near sewage treated land.
- Odour is the main complaint of populations non-occupationally exposed to sewage sludge.

**Paragraph 15**

*"While the Environmental Audit Committee requested the Government, prior to triggering Article 50, to legislate a new Environmental Protections Act to ensure equal or higher standards afforded by European law, this request was not heeded. The Government's decision to trigger Article 50 without clarifying the technical details of the transposition of EU law, may pose a real danger the country will be left without a clear framework at the time of Brexit to ensure similar levels of protections currently provided by the EU."*

Note - The Repeal Bill will ensure that the whole body of existing EU environmental law continues to have effect in UK law.

Without pre-judging what our future relationship with the EU will be or future decisions Parliament may make, this will give consumers, workers and businesses as much certainty as possible by maintaining the existing laws wherever practicable and desirable.

Defra has over 1100 core pieces of directly applicable EU legislation and national implementing legislation to consider. While some policy areas (such as chemicals) may be more complex to convert, because they rely on EU systems, we are confident that we will be able to address these issues.

**Paragraph 18**

*"Yet lack of clear guarantees, in particular to keep up with presumably Strengthening EU standards of human health and environmental protection over the coming years, and statements such as those made by the Parliamentary Under-Secretary of State for Environment, Food and Rural Affairs that existing laws would be maintained "wherever practical and desirable", are worrying."*

The Repeal Bill will ensure that the whole body of existing EU environmental law continues to have effect in UK law providing businesses, communities and stakeholders with maximum certainty as we leave the EU.

We will then have the opportunity, over time, to ensure our legislative framework is outcome-driven and delivers on our overall commitment of improving the environment within a generation.

**Paragraph 19**

"Should the Government fail to equal the EU on air quality controls"

Note - The UK currently meets its commitments under European legislation on local concentrations in relation to all air pollutants with the exception of nitrogen dioxide. This is in common with 16 other European member states. The UK situation is part of a wider problem with sixteen other European Union (EU) countries, alongside Norway and Serbia, recording NO2 concentrations above the annual mean limit value, at one or more monitoring sites in 2014.The main reason for non-compliance is the failure of Euro emission standards for diesel cars to deliver the expected emission reductions of NO2 in real world driving conditions.

**Paragraph 20**

**Comments from the Welsh Government**

The reference to "the Government" refers to the evidence given by the Defra Minister, Therese Coffey MP, who only speaks for environmental policy in England. The environment and public

health are devolved matters. Lesley Griffiths AM, Cabinet Secretary for Environment and Rural Affairs in Wales, wrote to the Environmental Audit Committee Correspondence between Lesley Griffiths Mary Creagh chemical regulations brexit, setting out the Welsh Government's position on chemicals regulation following our exit from the EU.

**Comments from the Scottish Government**

The Scottish Government's Cabinet Secretary for Environment, Climate Change and Land Reform, Roseanna Cunningham MSP, has publicly stated that Scotland's approach to environmental policy is founded on certain core environmental principles such as polluter pays, source control and the precautionary principle. These principles will remain the foundation of Scotland's approach to environmental protection in a post-EU era - although Scottish Ministers will also look for opportunities to improve existing approaches, if they will deliver better outcomes for our environment.

**Comments from UK Government**

*"In an inquiry published by the Environmental Audit Committee in April 2017 on the future of chemicals regulations, most respondents (including industry, environmental champions and the Welsh Government) expressed the wish to stay closely aligned to REACH. However, the UK Government informed the Committee that it has no intentions to remain fully involved, considering REACH is a single market mechanism. Recognising that relinquishing REACH membership while maintaining access to the single market implies establishing a costly stand-alone system, the Committee has urged the Government to at a minimum negotiate remaining within REACH's data sharing and registration process system."*

The UK is strongly committed to effective and safe management of chemicals and pesticides. That will not change when we leave the EU.

The Repeal Bill will incorporate current EU law into domestic law and allow it to be corrected in order to operate properly, giving consumers and businesses as much certainty as possible. This includes regulations relating to chemicals.

While the UK remains a member of the EU we will continue to fully participate in the work of the European Chemicals Agency.

As part of the exit negotiations the Government will discuss with the EU and the 27 Member States how best to continue cooperation in the field of chemicals regulation in the best interests of both the UK and the EU.

It would not be appropriate to pre-judge the outcome of the negotiations.

**Air pollution**

**Paragraph 23**

"Air pollution continues to plague the United Kingdom. Over 40,000 premature deaths per year are estimated to occur in the country, with over 9,000 in London alone."

Note - Suggest reference to the following: Royal College of Physicians, '*Every breath we take: the lifelong impact of air pollution*', 2016

www.replondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution

**Paragraph 24**

"Children, older persons and people with pre-existing health conditions are at grave risk of mortality, morbidity and disability from air pollution, with magnified risks among poor and minority communities."

Note – Regarding the 'magnified risks' there is no evidence to support this assertion in Scotland.

**Paragraph 25**

"While the Environment Act 1995 requires the United Kingdom Government, Scotland and Wales (with equivalent legislation in Northern Ireland) to produce a national air quality strategy, it also sets provisions for local air quality management, obliging local authorities to prepare plans but not to carry out the measures described in those plans"

Under Part IV of the Environment Act 1995 Local authorities are required to review and assess local air quality through the statutory local air quality management (LAQM) system. Where a Council identifies areas exceeding statutory limits and there is relevant public exposure, it is required to declare the geographic extent of exceedance an air quality management area (AQMA) and to draw up an action plan detailing remedial measures to address the problem.

Also note that Domestic biomass use is regulated by the Clean Air Act 1993. The Act grants local authorities powers to declare Smoke Controlled Areas in which emissions of smoke from the chimney of a building are banned unless the occupier is using an authorised fuel or exempted fireplace. Smoke control areas have been introduced in many large towns and cities in the UK.

The 95 Act also requires LA to work towards, rather than comply with, the air quality objectives, so there is no legal recourse for an LA not meeting the air quality strategy requirements.

**Paragraph 29**

This has to be clear that it was the Secretary of State for the UK Government that was taken to court and we would suggest the following wording to clarify that.

*"Accusing the Government of limiting itself to five Clean Air Zones because of cost implications and using inaccurate air pollution modelling forecasts, ClientEarth took the Secretary of State for the Environment, Food and Rural Affairs back to the High Court in a judicial review, and in November 2016 the Court found the Government's plan to be insufficient to comply with the European Union Directive. The Court ordered the Secretary of State to take measures to improve air pollution as soon as possible, and to develop a plan by 31 July 2017."*

**Paragraph 30**

"A new plan to mitigate air pollution was published in July 2017. The 2017 plan is presented as "delivering cleaner air in the shortest time possible." While many considerations must be taken into account, the latest plan does not convey the necessary urgency to protect the rights of children, older persons and other sensitive groups. For example, key details of the plan will not be finalized until December 2018 by local authorities. In doing so, local authorities are discouraged from using "charging zones," which the Government itself determined is the fastest, most effective way to reduce air pollution levels. Leaders of at least six city councils claim measures will not enable their cities to stay within legal limits on air pollution."

Note – The government has published a UK plan for tackling roadside concentrations of nitrogen dioxide (July 2017) the objective of which is to achieve statutory limit values within the shortest possible time. The government identified clean air zones with charging as the measure it is able to model nationally which will achieve the outcome above; the implementation of charging zones takes several years. The government believes that if local authorities in England can identify other measures, which are at least as quick and effective in reducing roadside concentrations of nitrogen dioxide, these measures should be preferred. The government has placed a statutory requirement on specified local authorities to develop initial and final local plans as soon as possible and at the latest by 31 March and 31 December 2018 respectively, and announced a £255 million implementation fund available to support them.

**Paragraph 31**

The Special Rapporteur is alarmed that despite repeated judicial instruction, as well as recommendations by the Committee on the Rights of the Child (see UN/C.G/GBR/CO/5, paras. 68-69) the United Kingdom Government continues to flout its duty to ensure adequate air quality and protect the rights to life and health of its citizens."

Note – Air quality has improved significantly over recent decades and will continue to improve thanks to the action the Government has already taken. This began with the Clean Air Act in 1956 and will continue. Implementing our strategy to work towards our ambitious international emission reduction targets for five damaging air pollutants by 2020 and 2030 will further improve health and the environment.

**Fracking**

**Paragraph 32**

The figure of 200 has come from a Friends of the Earth online petition which is unsubstantiated. Suggest including in our response that:

*"Shale gas development is at an early stage in the UK. The UK Government is encouraging its exploration in England, while the devolved administrations carry out further evidence gathering to determine its potential to provide greater energy security and growth. The Scottish Government's focus is understanding the full range of potential impacts from the industry. Although yet unknown what volume of shale gas will be practically producible, 73% of the area in England identified as having potential by the British Geological Society has been licensed. This gives companies exclusive rights to explore for and develop oil or gas in a particular area. However drilling and fracking cannot take place without a number of other permissions which must be obtained from the regulators and UK Government."*

**Paragraph 36**

We suggest that the UK response makes the following points:

*The Environment Agency will not permit the use of 'hazardous substances' (as defined by the Water Framework and Groundwater Directives) for any activity, including hydraulic fracturing, where they would or might enter groundwater and cause pollution. The aim is to ensure that hazardous substances are prevented from entering groundwater and that any contamination by non-hazardous pollutants is limited. The chemicals used in shale gas fracturing fluid are widely used in other industrial processes. Any chemicals proposed for use in shale gas extraction fluid must be publicly disclosed and will also be risk assessed prior to use by the Environment Agency, with subsequent peer review by the joint agencies groundwater directive advisory group (JAGDAG). The storage, transport and treatment of wastewater will be subject to environmental permits in line with the regulation of other industrial waste waters.*

**Paragraph 37**

**Your report's reference to the New York State Dept. of Health review:**

You cite the review's "finding" that links between unconventional gas extraction and adverse health outcomes have been established. In fact, the review presents a more measured analysis of the available evidence, noting on p23: "[…]that the presentation attributes up to 27 cases of symptom complaints as plausibly associated with a source of exposure in either air or water. However, there is no environmental exposure assessment presented in support of the claimed associations. No air or water monitoring data are presented. The symptoms reported are common in the general population and can have many causes. The sample is self-selected, and there was no systematic assessment of baseline health status or comparison with a similar non-HVHF population. There is no information presented indicating that the analysis attempted to account for potential confounders or other existing exposure sources.

In the conclusion for the health and environmental literature section (p41) the report states: "Many of the published reports investigating environmental and health implications of HVHF activities are preliminary or exploratory in nature. As a result, the available science on HVHF currently is limited and largely suggests hypotheses about potential impacts that need further evaluation."

We would suggest inserting the following after "…chemicals used in fracking.":

*"The New York Study presented no environmental exposure assessment in support of the claimed associations and no air or water monitoring data were presented. The symptoms reported are common in the general population and can have many causes. In addition the sample was self-selected, and there was no systematic assessment of baseline health status or comparison with similar populations in other countries."*

**The report's reference to Health Protection Scotland's 2016 report:**

The Health Protection Scotland report summary notes that there were relatively few epidemiological studies available on the topic. The small quantity of material available was of variable quality and was characterised by contradictory and inconsistent findings. This

evidence base was therefore "inadequate" to determine if there was a general association between unconventional oil and gas activities and health impacts. Specific studies provided "inadequate" evidence of association between unconventional oil and gas activities and effects on reproductive and developmental health, childhood cancer, or adverse neurological, cardiovascular, or dermatological health outcomes.

We suggest the following addition after "...quality of groundwater drinking surfaces."

*"The Health Protection Scotland report found evidence that UGE presents a number of environmental hazards (potential sources of harm including water borne and air hazards; however, there was either insufficient or limited evidence of such hazards leading to health impacts. A notable exception was evidence that respirable crystalline silica, a component of fluids used in hydraulic fracturing processes, occurred at levels that could pose a risk to UOG workers' health. The report notes that a precautionary approach to UGE should be adopted, and that this could include measures involving operational best practice, regulatory frameworks and community engagement."*

"Public Health England has assessed the risk to human health of extracting shale gas. It evaluated available evidence on issues including air quality, radon gas, naturally occurring radioactive materials, water contamination and waste water. It concluded that "the risks to public health from exposure to emissions from shale gas extraction are low if operations are properly run and regulated." See the Public Health England report.

**Paragraph 38**

**Your report's reference to the 2014 report by RSPB:**

A study conducted by the Royal Society for the Protection of Birds and a number of other wildlife charities in the UK concluded that many different aspects of fracking would negatively affect wildlife and reduce available water resources."

We suggest the following response:

*"Evidence for the report was taken from extrapolating the high activity scenario in the Strategic Environmental Assessment Report by AMEC. In the high activity scenario, water consumption was estimated at a rate of up to 9 million cubic metres per annum, an increase of nearly 18.5% on the approximate 49.5 million cubic metres of mains water supplied to the energy, water and waste sectors annually but substantially less than 1% of total UK annual non-domestic mains water usage. The RSPB report further commented 'amounting to a total of 164 million m³ over a 20-year period'. This is likely to be a significant overestimation."*

**Paragraph 39**

**Use of water**

We would also like the following to be noted.

The regulation of water abstraction is in place to balance the demands of users (including industry, agriculture and households) with the needs of the environment. The EA produces a Water Resources Strategy, which sets out how water resources should be managed throughout England to 2050 and beyond to ensure that there will be enough water for people and the environment.

In England, the EA regulates the abstraction of water by location and demand. An operator can obtain water for hydraulic fracturing from its local water company, or, if it intends to abstract more than 20 cubic metres a day from a watercourse or groundwater, it must apply for an abstraction licence from the EA. To date only one operator has carried out hydraulic fracturing exploring for shale gas (Cuadrilla, at Preese Hall, Lancashire). It sourced water from the local water utility company.

If there is not enough water locally, taking into account the needs of all other users and the needs of the environment, the water company would not be able to provide the full amount requested by the operator for the period it is required. The EA would not allow companies to abstract an amount of water that would affect other users and the environment.

Flowback fluid can be treated and re-used as fresh injection fluid for the purpose of hydraulic fracturing and the EA considers this to be a suitable environmental option. Re-use serves a dual

purpose: reducing the volume of freshwater required for hydraulic fracturing, and reducing waste water generated from the operations. Re-use, where reasonably practicable to do so, is required to meet the Mining Waste Directive obligation to minimise waste. The recycled fluid must be treated to the point where it performs the same function as fresh injection fluid and will still be subject to conditions on the environmental permit. Cuadrilla intends to re-use the flowback fluid from hydraulic fracturing at Preston New Road in Lancashire. See https://consult.environment-agency.gov.uk/onshore-oil-and-gas/information-on-cuadrillas-preston-new-road-site/supporting_documents/Cuadrilla%20Preston%20New%20Road%20Decision%20Document_and_Annex%20Mining%20Waste%20Permit%20AB3101MW.pdf

Planning authorities have placed restrictions through land use consenting on operations in environmentally sensitive locations at certain times e.g. during breeding seasons.

**The assertion that UK regulations on fracking are complex and split between several regulators and do not appear to be sufficiently stringent**

The UK has over 50 years' experience regulating the onshore oil and gas industry, and measures are in place to ensure on-site safety, prevent environmental contamination, mitigate seismic activity and minimise emissions. Our system is robust and we are among the world leaders in well regulated, safe and environmentally sound oil and gas developments. We have undertaken to keep our regulatory framework under review as the shale industry develops.

Our system uses existing regulators with long-standing experience of regulating across different sectors in their area of expertise, which enables them to apply their specialist knowledge effectively. The regulations a shale gas operator must meet in England are set out in the regulatory roadmap, which is publically available online[1]. This was published in December 2015 and is currently in the process of being updated to reflect additional regulatory steps, such as the need for an operator to obtain Hydraulic Fracturing Consent from the BEIS Secretary of State. The Environment Agency (EA) and the Health and Safety Executive (HSE) have produced a joint working statement setting out how they work together to ensure a joined-up approach, and that there is appropriate monitoring and inspection of operations. The EA and PHE also have a working together agreement in relation to environmental permitting (EA and PHE Working Together Agreement).

The EA, HSE and OGA conduct joint workshops to share experiences and learning, raising competence and ensuring coordinated and holistic working. A recent example: EA regulators attended well integrity training courses delivered by experienced HSE well inspectors in Aberdeen in March 2017. HSE/EA held a regulatory workshop in November 2016 with representatives of other UK environment regulators, OGA, PHE and Natural England to discuss the regulatory approach. EA, HSE, OGA and also the local Mineral Planning Authority (MPA) and Public Health England (PHE) come together to hold community liaison and information group meetings. EA, HSE, OGA and PHE have joined up with the Planning Advisory Service to deliver training to local councillors. Over 100 of these training and public engagement events have been held in England since 2013. Feedback from the engagement has been positive and strongly suggests that attendees value the opportunity to learn more about the regulatory regime.

The regulators are highly experienced in working together, to regulate the oil and gas industry and other sectors, e.g. (the EA's Nuclear Regulation Group works with the Office for Nuclear Regulation and; the HSE works with various agencies to implement the Control of Major Accident Hazards (COMAH) Regulations.

The 2012 review of hydraulic fracturing by the Royal Society and the Royal Academy of Engineering states (p5): "The UK's goal based approach to regulation is to be commended, requiring operators to identify and assess risks in a way that fosters innovation and continuous improvement in risk management" (see https://royalsociety.org/topics-policy/projects/shale-gas-extraction/report/).

[1] https://www.gov.uk/government/publications/regulatory-roadmap-onshore-oil-and-gas-exploration-in-the-uk-regulation-and-best-practice

*"Meanwhile EU regulations do not provide sufficiently robust guidelines, instead relying heavily on self-monitoring by the oil and gas industry"*

Monitoring data is submitted to and checked by the environmental regulator to ensure compliance with the environmental permit. Any breach of a permit condition or environmental legislation may result in enforcement action being taken against the operator. If required the environmental regulator may choose to undertake additional monitoring itself.

Additional groundwater monitoring is also being undertaken by the British Geological Survey (BGS) in Lancashire and the Vale of Pickering, where Cuadrilla and Third Energy, respectively, intend to hydraulically fracture. See

http://www.bgs.ac.uk/research/groundwater/shaleGas/monitoring/home.html

**Paragraph 40**

**Water protections and the Infrastructure Act**

Monitoring requirements after the decommissioning of the well will depend on the risks posed by the site, and assessed on a site-by-site basis. The surrender of the environmental permit is only possible after a site has been returned to satisfactory conditions.

Prior to the Infrastructure Act 2015, it was already the case that the Environment Agency (EA) and Natural Resources Wales (NRW) did not permit drilling for oil or gas in Source Protection Zones (SPZ) 1. In addition, EA and NRW will continue to refuse permit applications for drilling activities within SPZ 1, 2, 3 or wider areas if they consider that an activity poses an unacceptable risk to the environment.

SPZ 1 areas are those areas close to drinking water sources where there is the greatest risk associated with groundwater contamination.

Section 4A(1) of the Infrastructure Act 2015 prohibits associated hydraulic fracturing within 1,000 metres of the surface. In addition, the Act introduced a range of requirements if an operator is to carry out hydraulic fracturing, to provide the public with confidence that this industry is being taken forward safely. These include the assessment of environmental impacts, groundwater monitoring, community benefits and the exclusion of protected areas.

http://www.legislation.gov.uk/ukpga/2015/7/section/50

The protected areas in which hydraulic fracturing will be prohibited have been set out in the Onshore Hydraulic Fracturing (Protected Areas) Regulations 2016. These regulations ensure that the process of hydraulic fracturing cannot take place within 1,200 metres of the surface of National Parks, the Broads, Areas of Outstanding Natural Beauty (AONBs), World Heritage Sites and areas that are most vulnerable to groundwater pollution: protected groundwater source areas.

http://www.legislation.gov.uk/ukdsi/2015/9780111137932/pdfs/ukdsi_9780111137932_en.pdf

The Regulations define protected groundwater source areas as

"any land at the surface that is -

(a) within 50 metres of a point at the surface at which water is abstracted from underground strata and is used to supply water for domestic or food production purposes, or

(b) within or above a zone defined by a 50-day travel time for groundwater to reach a groundwater abstraction point that is used to supply water for domestic or food production purposes."

BEIS has consulted with the Environment Agency and NRW on the definition of "protected groundwater source areas", who are content for these areas to be aligned with Source Protection Zone 1. This will reinforce their regulatory approach, by being consistent with the approach taken to control the risks from other groundwater activities.

*"While planning authorities are required to take account of the "environmental impact" of fracking developments, there is no explicit requirement for an environmental impact assessment"*

Industry have committed to EIA for sites where hydraulic fracturing is planned: http://www.ukoog.org.uk/about-ukoog/press-releases/66-how-to-engage-with-shale-gas-hydraulic-fracturing-planning-and-permitting

**In response to:**

"And while the Health and Safety Executive must conduct visits to fracking wells, they need not be unannounced, nor are there requirements to conduct independent inspections of well integrity"

Independent inspections, health and safety regulations require information to be sent to HSE regarding the integrity of all onshore oil and gas wells and the report of the failure of any safety barrier within an oil or gas well to be reported to HSE. Operators would be given notice of most HSE inspections as this allows them to ensure that key personnel and information is available to inspectors. However, HSE inspectors have a right of entry to any workplace and so unannounced inspections will be conducted where necessary. Further independent inspections of oil and gas wells will be conducted by the independent well examiner, also required by health and safety legislation.

**In response to "Finally there are no requirements to continue monitoring methane emissions after a site is decommissioned, or to conduct long-term monitoring of other gases"**

Monitoring requirements after the decommissioning of the well will depend on the risks posed by the site, and assessed on a site-by-site basis. The surrender of the environmental permit is only possible after a site has been returned to satisfactory conditions.

**Paragraph 41**

"However, it may not have the capacity to continually apply such checks and it remains a concern that such information does not need to be disclosed when applying for planning permission."

**Disclosure of chemicals:**

The Environment Agency requires full disclosure of the chemicals used in fracking, and may prohibit the use of any substances found to pose an environmental risk. Chemicals are assessed as part of the environmental permit application process and a list of approved chemicals is publically available once the permit has been granted. The EA charges a fee to operators to apply for an environmental permit so that the EA can recover its costs and can increase its staffing to meet the regulatory demand of a growing industry.

The assessment of chemicals and the protection of groundwater falls within the regulatory remit of the Environment Agency. Operators are encouraged to send in applications for environmental permits and planning permission in parallel ('twin track'). The Environment Agency is a statutory consultee to the planning process. To date, environmental permits have been issued prior to the planning application being considered by the mineral planning authority.

EA Capacity:

The EA charges a fee to operators to apply for an environmental permit so that the EA can recover its costs and can increase its staffing to meet the regulatory demand of a growing industry.

**Paragraph 42**

In response to the DCLG SoS decision to overturn the Lancashire County Council decision to refuse planning permission: We would suggest deleting the paragraph and replacing it with the following:

*With regard to Preston New Road site, the Secretary of State for Communities and Local Government considered appeals made to him under section 78 of the Town and County Planning Act against Lancashire County Council's decision to refuse planning permission for*

*shale exploration proposals at that site. Having considered the individual planning merits of the proposals and taken into account the findings, conclusions and recommendations of an*

*independent planning inspector who held a public inquiry into the proposals, the Secretary of State decided to grant planning permission.*

**Paragraph 44**

In response to "In practice, however fragmented policymaking allows for loopholes, and the full extent of the impact on affected communities may not be adequately weighted in decision-making".

Our regulatory system uses existing regulators with long-standing experience of regulating different sectors in their area of specialisation. Because each regulator specialises in the aspects that they oversee, such as health and safety or the environment, they can bring to bear extensive knowledge and experience that they have gained from their work across multiple sectors.

To further improve public understanding of regulation, and increase collaboration between regulators, Government committed in its recent manifesto to developing a single environmental regulator. This will "provide clear governance and accountability, become a source of expertise, and allow decisions to be made fairly but swiftly".

Community engagement throughout the development of shale gas is vital. All planning applications for shale gas developments are subject to public consultation, where the local community has the opportunity to set out their views on the benefits and impacts of their proposals. The Mineral Planning Authorities (MPAs) will then consider whether the development proposal is acceptable at that particular location, after those views have been taken into account.

In addition to formal consultation with local communities, we are working with regulators to ensure that the public understand how the regulatory regime works, and with the industry to encourage effective engagement which addresses local communities' concerns.

**Toxic landfill Sites**

**Paragraph 46**

The 300,000 hectares refers to England & Wales only & is an Environment Agency estimate. It doesn't mean that all 300k hectares are affected as this implies. Actual wording from the EA report is: **we estimated that there might be around 300,000 hectares of land affected by industrial activity in England and Wales which may be contaminated**

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/313964/geho0109bpha-e-e.pdf

**Paragraph 47**

A number of Local Authorities in Wales took the opportunity to investigate former landfill sites as part of the initial Welsh Government Contaminated Land Capital Funding Programme.

As the funding has not been re-instated Local Authorities can once again look to address any problem sites if needed.

Believe the Welsh Audit Office has undertaken some work on former landfill sites and some Local Authorities have implemented their recommendations (Wrexham has set aside funding to deal with them).

**Paragraph 50**

The substantial legacy of radioactive waste in the UK is the result of historic practices in the development and implementation of nuclear power in the UK. For example, nearly three quarters of all UK radioactive waste is from Sellafield, Cumbria.

**Paragraph 53**

The NSIP amendment order was not a surprise. UK Government flagged it in the public consultation that led to the 2014 White Paper which was informed by the consultation. It also took into account lessons learned from previous siting process. It was voted on in Parliament with 35 MPs voting against the amendment order.

It also does not take into account the consent-based approach of working with willing communities over a long period of time before any planning application can be submitted.

**Paragraph 54**

The regulatory regime for the transport of radioactive material in the UK is based on internationally agreed standards published by the International Atomic Energy Agency, which have an exemplary safety record extending over 50 years and a billion consignments of radioactive material worldwide, and there has never been a transport incident that has caused a significant radiological hazard to people or the environment. These regulations apply a graded approach, which ensures that radiological consequences are limited, even in the event of a severe accident.

In the UK, all consignors and carriers of radioactive material are required to have emergency arrangements in place appropriate to the nature of the consignment, including its intended route and radiological hazard. In addition, for maritime transport, a graded approach is applied in respect of the capabilities of the vessel relevant to the hazard of the consignment, which for higher hazard consignments will include diverse, redundant and separate emergency systems, designed to ensure that any radiological emergency is managed effectively.

*"[nuclear] waste is transported weekly over 400 miles from the decommissioned Dounreay civil nuclear reactor site in Scotland for treatment and storage in Sellafield".*

This statement is factually incorrect – it is in fact nuclear ***material*** (and not 'waste') that is being transported to Sellafield. As this nuclear material (which is being transported mainly for security reasons) has a potential re-use capability, it is not classified by both the site and regulators as 'waste'. This is extremely important in terms of determining the competent authority responsible for this material - in this case, the competent authority is the UK government. In its current form the draft report wrongly implies that it is a matter for the Scottish Government and the Scottish Government is directing the NDA to transport radioactive waste from Dounreay to Sellafield.

The only nuclear wastes being transported over a great distance from the Dounreay site is the return of a very small quantity of internationally obligated wastes to their countries of origin. These are legacy wastes resulting from historical overseas reprocessing contracts, which the NDA are tasked with managing.

Information on the Dounreay to Sellafield nuclear material transportation programme can be found at: https://dounreay.com/about/decommissioning-projects/fuels/

We would also suggested the SR considers removing the word 'decommissioned' when referring to Dounreay, as the site is still some way (as in at least 15 years away) from being fully decommissioned.

**Paragraph 64**

Note that The Scottish Government and its partners are currently undertaking a period of engagement with business, trade unions and civil society organisations around the findings of the baseline assessment, which will inform the drafting of a NAP.

**Paragraph 65**

The Scottish Government notes:

This area, like many others that will emerge throughout the Brexit period, throws up potential for regulatory diversion. Scotland needs to ensure it takes a strategic approach to regulatory change and is consistent. Recommend that Business and Regulatory Impact Assessments (BRIAs) could be useful as a measure of impact of changes and also that the principles of Better Regulation could form the foundation for approach to considering changes and updates to any regulations. The five principles of better regulation are that regulation is proportionate, transparent, accountable, consistent and targeted only where necessary.

**Paragraph 71**

We suggest the following text should be added the end of the paragraph for context:

*"Regulation (EU) 649/2012 on the export and Import of hazardous chemicals (known as the PIC Regulation) implements in the EU the UN Rotterdam Convention on the prior informed*

*consent procedure for certain hazardous chemicals and pesticides in international trade. The aim of the Convention is to promote shared responsibility and cooperation among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm and contribute to the environmentally sound use of chemicals.*

*Paraquat is not currently listed in the Rotterdam Convention and so exports are not subject to the prior informed consent procedure. The EU PIC Regulation, however, goes further than the provisions of the Convention and requires chemicals banned or severely restricted within the EU to have the explicit consent of the importing country before export can take place. On the basis of notifications by Syngenta received by HSE as the Designated National Authority for the EU PIC Regulation, export of paraquat by Syngenta outside the EU has been undertaken in accordance with EU legal requirements including obtaining explicit consent from the government of the importing country. This requirement is over and above what is required under the international Convention."*

**Paragraph 76**

This paragraph in particular seems to be a general criticism of LASPO and not specific to toxic chemicals/pollution. Was that the intention? If not, may wish to revise to reflect any perceived effect LASPO has had on these matters.

The Amnesty International report focused on immigration, family and welfare benefits cases and not necessarily legal aid scope in its entirety.

**Paragraph 79**

The Legal Aid system in Scotland is undergoing a significant review which will result in simplifying the system.

**Paragraph 82**

In an example dating back to the 1980s, farmers and agricultural workers who believe they were affected by the use of organophosphate-based or "OP" pesticides in sheep dipping activities have faced severe difficulties in accessing an effective remedy. At the time, the United Kingdom Government ran a mandatory programme requiring farmers to chemically treat their sheep with pesticides to combat sheep scab. Most farmers used organophosphate-based dips to comply, as they were the only licensed products available initially. Organophosphate compounds were initially developed as neurotoxic chemical warfare agents due to their ability to inhibit blood cholinesterase activity.[11]

We would suggest adding this to the end of the paragraph

"Subsequent advancements in pharmaceutical technology aided the development of progressively less toxic OP molecules, which show greater selectivity towards insect (as opposed to human) cholinesterases and have been widely used for their pesticide activity in crop protection products and veterinary medicines for many years."

**Paragraph 83**

Over the next two decades, farmers reported a range of debilitating health problems which they believed to be the result of poisoning from the organophosphate-based products, with symptoms including nausea, anxiety, pulmonary oedema and long-term neurological damage. Victim support groups compiled a list of more than 500 farmers believed to have suffered from ill health as a result of their exposure, although campaigners claim the real number to run in the thousands. Victims struggled to access appropriate treatment under the public health regime, as organophosphate poisoning was not considered to be a medical condition. Some were allegedly wrongly diagnosed as suffering from psychological issues and given medications that exacerbated their suffering. A number of individuals who were medically tested by the Government claim they experienced serious difficulties in obtaining the release of their

[11] The programme was halted in 1992.

medical records.[42] The difficulty in establishing causation between chronic ill health and the use of organophosphate-based pesticides has seen many legal claims fail.

**Addition:**

Approximately half of these reports relate only to short term symptoms (eg dipper's flu) and in many reports the recommended safety precautions were not observed. (suggest adding this to the end of the second sentence).

"Victim support groups compiled a list of more than 500 farmers believed to suffer from ill health as a result of exposure to OPs, although campaigners claim the real number to have run in the thousands."

Note - There is no definitive data to say how many people consider that they have suffered long term effects.

The most comprehensive list of patients known to the Government is held by the Veterinary Medicine Directorate who collect and analyse reports of adverse effects in animals, humans or the environment following use of veterinary medicines. In total they have received just under 700 reports relating to adverse effects in humans following use of OP sheep dips, however approximately half of these reports relate only to short term symptoms (eg dipper's flu) and in many reports the recommended safety precautions were not observed.

"Victims struggled to access appropriate treatment under the public health regime, as OP poisoning was not considered a medical condition. Some were allegedly wrongly diagnosed as suffering from psychological issues and given medications that exacerbated their suffering."

Note - Although there is little that the Government of today can do to address any historical cases of medical misdiagnosis or treatment on behalf of individuals, at a meeting with a group of these patients held in November 2015, government officials agreed to liaise with colleagues from other departments to determine what sate benefits these patients were entitled to apply for. This information was provided in April 2016.

As it is a matter of debate between the individual and their Doctor about diagnoses, shouldn't this state that they believe medication exacerbated their condition?

"A number of individuals who were medically tested by the Government claim they experienced serious difficulties in obtaining the release of their medical records.[43]"

Note - Following the same meeting with the group of patients, government officials liaised with the hospital concerned to determine what information was still held and how the patients could gain access to their records at little or no expense. These enquiries also revealed that the referring physicians had been informed of the test results at the time, thus explaining why a lot of the raw data had not been retained. Although it was not possible to investigate the apparent loss of medical records from numerous clinics across the country, several boxes of patient records relating to these government-funded studies were unearthed from the archives at the hospital where they had been conducted. The relevant patient groups were informed of this discovery when the detailed advice for gaining access to medical records was published.

"The difficulty in establishing causation between chronic ill health and the use of OP chemicals has seen many legal claims fail."

Note - as illustrated above, it should be noted that over the past few decades the Government has invested a considerable amount of time and public money to better understand all the potential risks when using these compounds and determine how they can be minimized. Over the years this research has resulted in incremental improvements to OP dip packaging and the safety advice provided to the user within each pack, thereby ensuring that the warnings always reflect the available knowledge at the time.

We would suggest adding this to the end of the second sentence:

[42] In the year and a half preceding the time of writing, 20 documents were released with the help of the Department for Environment, Food and Rural Affairs. They contain medical results, but not the names linked to them.

"However approximately half of these reports relate only to short term symptoms (eg dipper's flu) and in many reports the recommended safety precautions were not observed."

**Paragraph 84**

**Current:**

In 2015, an internal report of the Health and Safety Executive of May 1991 was released under a freedom of information request, which established that government officials had warned of the dangers of exposure to organophosphate-based pesticides. Yet in the same month, the Minister of Farming demanded that local authorities clamp down on farmers who refused to use the chemical. The release of the internal report triggered calls by more than a dozen Members of Parliament for an inquiry and public debate into whether farmers were misled over the use of organophosphate-based pesticides.

**Amended: (bolded and underlined for ease):**

In 2015, an internal report of the Health and Safety Executive of May 1991 was released under a freedom of information request, which established that government officials had warned of the dangers of **repeated** exposure to organophosphate-based pesticides **within a short timeframe**. Yet in the same month, the Minister of Farming demanded that local authorities clamp down on farmers who refused to use the chemical. The release of the internal report triggered calls by more than a dozen Members of Parliament for an inquiry and public debate into whether farmers were misled over the use of organophosphate-based pesticides.

**Paragraph 86**

"One particular independent study, which reviewed the available evidence concerning the neurotoxicity of low-level occupational exposure to OPs, found that 13 out of 16 studies showed evidence of neurological problems following long-term, low-level exposure to OPs."[45]

Note - This study was included and considered by the COT for the 2014 statement and was also separately reviewed by independent experts when it was completed and separately by the Veterinary Products Committee's Medical and Scientific Panel. All of these independent expert groups concluded the weakness of the study design allows no meaningful conclusions about the relation of organophosphates to common mental disorders.